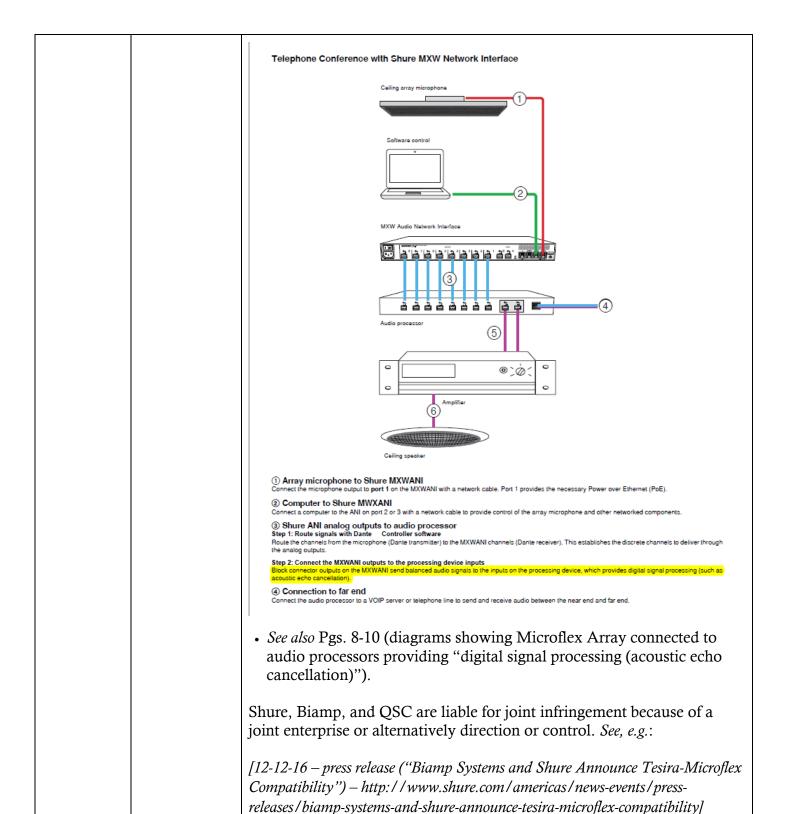
Exhibit B

SHURE MICROFLEX ADVANCE CEILING ARRAY MICROPHONE & QSC Q-SYS OR BIAMP TESIRA

| Claim | Claim language | Exemplary evidence and notes |
|-------|--|--|
| [1a] | A conferencing apparatus that combines a beamforming microphone array with an acoustic echo canceller, comprising: | The Shure Microflex Advance Ceiling Array Microphone ("Microflex Array") is a beamforming microphone array and at least a part of a conferencing apparatus. See, e.g.: [02-09-16 – Microflex Advance debut press release] "Shure Incorporated unveiled Microflex Advance, a portfolio of premium networked ceiling and table array microphones, audio interfaces, and control software for enhanced A/V conferencing that integrates seamlessly to a premium meeting space aesthetic.") [12-29-16 – Biamp's Component blog post ("Future Trends: Looking Ahead to 2017") – http://blog.biamp.com/future-trends-looking-ahead-to-2017/] "From the AV perspective, 2016 saw the widespread acceptance of the networked beamforming microphone. With small microphone capsules and embedded processors, the beamforming microphone has now become a commercial reality. Biamp's recent announcement about compatibility with the Shure MXA series of beamforming microphones is just the start." See also claim limitation [1c(i)], infra. The Shure Microflex Array, integrated with either the QSC Q-SYS or the Biamp Tesira as instructed and encouraged by Shure, QSC and Biamp, is a conferencing apparatus that combines a beamforming microphone array with an acoustic echo canceller. See, e.g.: [MXA910 User Manual – http://pubs.shure.com/guide/MXA910/en-US.pdf] Pg. 7: |



• "We're excited to **come together** with an industry leader like Shure in

[Biamp Knowledge Base ("Using TesiraFORTEDAN with Shure MXA310 and MXA910") – https://support.biamp.com/Tesira/Miscellaneous/Using_TesiraFORTE_DAN_with_Shure_MXA310_and_MXA910]

• "Partnership – The TesiraFORTE DAN product family ... offers streamline pairing with Shure MXA and MXW products"

[01-09-17 – press release ("QSC and Shure to Offer Integration Between Shure Microflex Networked Microphones and Entire Q-SYS Platform") – http://www.shure.com/americas/news-events/press-releases/qsc-and-shure-to-offer-integration-between-shure-microflex-networked-microphones-and-entire-q-sysplatform]

- "Partnership provides native control and audio integration"
- "The **partnership** includes the release of new control plug-ins for the Shure MXA910 Ceiling Array Microphone"
- "The setup guide, also **co-developed** by QSC and Shure, provides step-by-step instructions on how to integrate the MXA910 with Q-SYS"
- "We are tremendously excited to expand our **partnership** with QSC"

In addition, Shure, Biamp and QSC are liable for indirect infringement because they actively encourage and instruct their customers to combine the Shure Microflex Array with Biamp or QSC acoustic echo cancellers to make a conferencing apparatus. *See, e.g.*:

[10-12-16 - Shure Webinar (Invisible Audio) - https://www.youtube.com/watch?v=NfOWZux3Yxk&t]

• (@17:41: "We recommend and agree that the best way to use this mic is with individual channel processing inside your DSP; individual echo cancellation, individual noise reduction, individual EQ, everything, outside of the array itself; that's really the gold standard.")

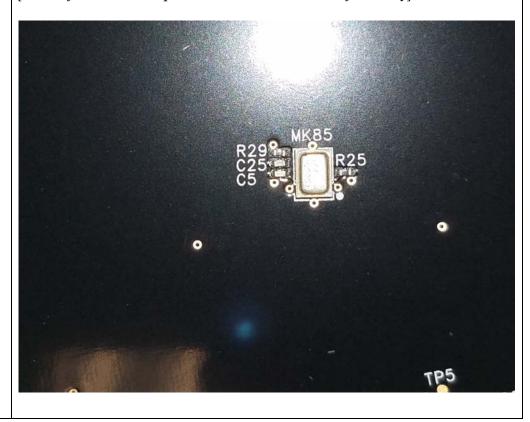
[01-09-17 – press release ("QSC and Shure to Offer Integration Between Shure Microflex Networked Microphones and Entire Q-SYS Platform")]

• "Simple setup and configuration is assured with the addition of a detailed quick start guide to integrate audio and control between the Shure and QSC systems. ... The setup guide, also co-developed by QSC and Shure, provides **step-by-step instructions** on how to

| | | integrate the MXA910 with Q-SYS") |
|------|---|--|
| | | [MXA910 best practices – setup hints – http://shure.custhelp.com/app/answers/detail/a_id/6294/~/mxa910-best- practicessetup-hints] • "Use an external DSP to apply AEC (Acoustic Echo Cancellation) and NC (Noise Cancellation) processing on each MXA910 output channel to help control echo and room noise." See also [Biamp Knowledge Base ("Using the Shure MXA910 with Tesira") – https://support.biamp.com/Tesira/Miscellaneous/ Using_the_Shure_MXA910_microphone_array_with_Tesira]; [Biamp Knowledge Base ("Using TesiraFORTEDAN with Shure MXA310 and MXA910")]; [QSC Quick Start Guide ("Integrating Q-SYS with the SHURE MXA910 microphone") – https://www.qsc.com/resource- files/productresources/dn/dsp_cores/q_dn_qsys_mxa910aes67_quickstartguide.p df]. |
| [1b] | a beamforming microphone array that further comprises a plurality of microphones, wherein each microphone is configured to sense acoustic waves and said plurality of microphones | The Shure Microflex Array is a beamforming microphone array with a plurality of microphones, wherein each microphone is configured to sense acoustic waves and the plurality of microphones are oriented to develop a corresponding plurality of microphone signals See, e.g.: [06-27-16 – Shure blog post ("Achieve Invisible Audio") – http://blog.shure.com/achieve-invisible-audio-with-the-mxa910-ceiling-array-microphone/] • "An array microphone consists of multiple mic elements arranged in a specific pattern and combined together electronically With the right microphones in the right arrangement and the right signal processing, sound quality improves dramatically. For starters, you can achieve a much narrower polar pattern than is possible with a conventional microphone The width and placement of the so-called 'pickup lobe' are also adjustable" |
| | are oriented to develop a corresponding plurality of | • @4:00: "Array microphones: Multiple mic elements combined together to produce multiple, highly-directional pickup lobes" |
| | microphone signals; | [Photo of Shure Microflex Array showing circuit board connections for many microphones] |



[Photo of the 85th microphone element in Shure Microflex Array]



[1c]

a processor, memory, and storage operably coupled to said beamforming microphone array; The Shure Microflex Array includes processors, memory, and storage operably coupled to the array. *See, e.g.*:

[Photo of Xilinx Artix 7 FPGA processor in Shure Microflex Array]



[Photo of Xilinx Spartan 6 FPGA processor and ISSI memory in Shure Microflex Array]



[Photo of Freescale iMX6 application processor in Shure Microflex Array]



[Photo of Macronix flash storage chip (upper right) in Shure Microflex Array]



See also [Xilinx 7 Series FPGAs data sheet] (identifying Xilinx Artix and Spartan chips as processors); [June 2012 ISSI IS43/46R16160D data sheet] (identifying ISSI device as memory); [02-10-12 Macronix MX25L25635E specification sheet] (identifying Macronix device as flash storage).

[1c(i)] said processor configured to: perform a beamforming operation

The Shure Microflex Array performs beamforming operations. See, e.g.:

[12-29-16 – Biamp's Component blog post ("Future Trends: Looking Ahead to 2017")]

• "From the AV perspective, 2016 saw the widespread acceptance of the networked beamforming microphone. With small microphone capsules and embedded processors, the beamforming microphone has now become a commercial reality. Biamp's recent announcement about compatibility with the Shure MXA series of beamforming microphones is just the start."

[06-27-16 - Shure blog post ("Achieve Invisible Audio")]

• "An array microphone consists of multiple mic elements arranged in a specific pattern and combined together electronically. . . . With the right microphones in the right arrangement and the right signal processing, sound quality improves dramatically. For starters, you can achieve a much narrower polar pattern than is possible with a

conventional microphone The width and placement of the socalled 'pickup lobe' are also adjustable"

[10-12-16 – Shure Webinar (Invisible Audio)]

• @4:00: "Array microphones: Multiple mic elements combined together to produce multiple, highly-directional pickup lobes"

[05-27-16 – Microflex Advance Ceiling Array product overview video – https://www.youtube.com/watch?v=kj0FZ5NQJhk]

• @0:10: "The ceiling array microphone replaces traditional microphones with eight independent durable lobes to provide custom coverage in nearly any room..."

[08-11-16 – Microflex Advance Steerable Coverage training video – https://www.youtube.com/watch?v=z4zwQB0wBtI]

- @0:50: "The auto position tool detects your voice to precisely aim the lobe."
- @1:07: "The system is **designed to detect speech**..."

[Intellimix DSP sell sheet — http://cdn.shure.com/uploaded_file/upload/268/intellimix-dsp-sell-sheet-english.pdf]

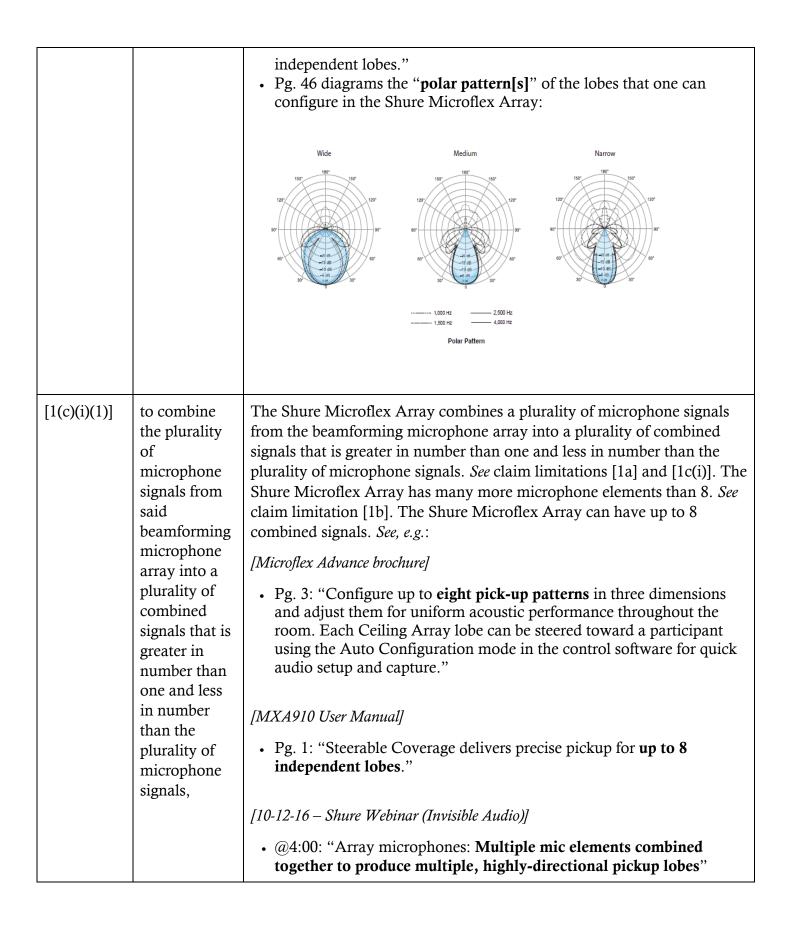
• "Steerable Coverage Technology – Configure and control **incredibly accurate polar patterns** captured from participants in any location of a meeting space. Preconfigured templates in the control software simplify setup."

[Microflex Advance brochure – http://cdn.shure.com/brochure/upload/111/mxa-brochure-english.pdf]

• Pg. 3: "Configure up to **eight pick-up patterns** in three dimensions and adjust them for uniform acoustic performance throughout the room. Each Ceiling Array lobe can be **steered toward a participant** using the Auto Configuration mode in the control software for quick audio setup and capture."

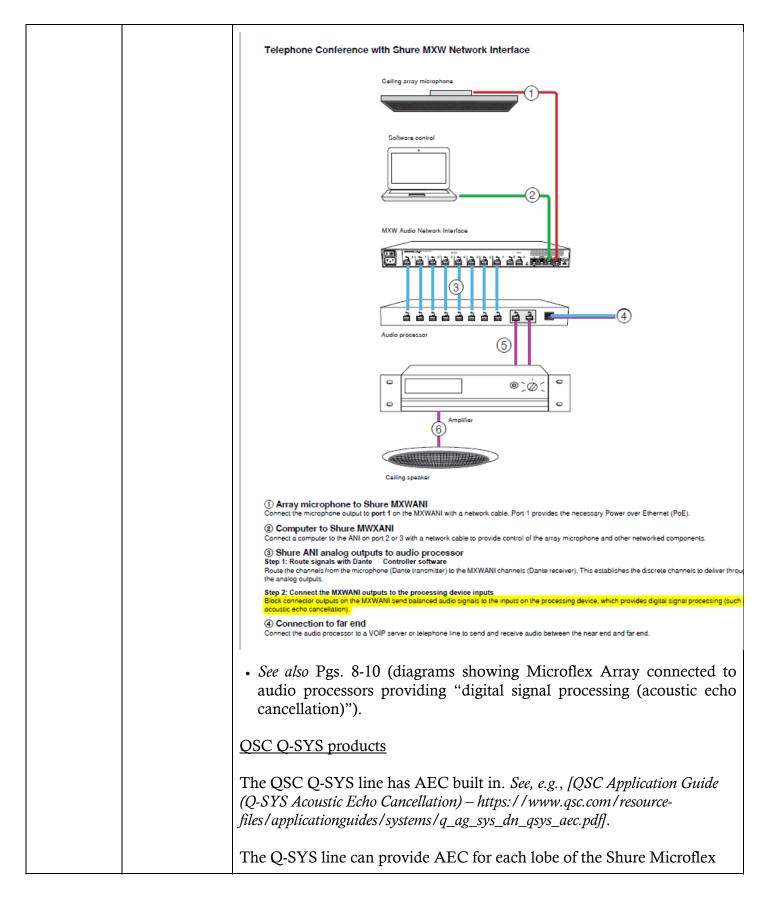
[MXA910 User Manual]

• Pg. 1: "Steerable Coverage delivers precise pickup for up to 8



| | | [02-9-16 – Microflex debut press release] "Microflex Advance Ceiling Array is a premium networked array microphone that captures best-in-class audio from above the meeting space with Shure proprietary Steerable Coverage technology, enabling up to eight lobes that are configurable in three dimensions." See also [MXA910 User Manual]; [02-09-16 – Microflex Advance Ceiling Array demo video]. |
|--------------|--|---|
| [1(c)(i)(2)] | each of the plurality of combined signals corresponding to a different fixed beam; | The Shure Microflex Array combines a plurality of microphone signals such that each of the plurality of combined signals corresponding to a different fixed beam. The 8 independent lobes of the Shure Microflex Array are fixed beams. See, e.g.: [Intellimix DSP sell sheet] "Steerable Coverage Technology – Configure and control incredibly accurate polar patterns captured from participants in any location of a meeting space. Preconfigured templates in the control software simplify setup." [05-27-16 – Microflex Advance Ceiling Array product overview video] @0:10: "The ceiling array microphone replaces traditional microphones with eight independent durable lobes to provide custom coverage in nearly any room" [MXA910 User Manual] Pg. 27: "Microphone Configuration" "Coverage: Adjust lobe width and location, select templates, save or load presets" See also pgs. 29-30. |

| | | Application flexibility Match single or multiple arrays to the AV conferencing needs of rooms of any size, configuration or activity: formal presentations, intimate discussions, distance learning or collaborative work. Take Array Courage Mays Part Book Based Base I have been failed by the fa |
|----------|---|--|
| [1c(ii)] | perform an acoustic echo cancellation operation with an acoustic echo canceller on the plurality of combined signals to generate a plurality of combined echo canceled signals; and | The Shure Microflex Array, integrated with either the QSC Q-SYS or the Biamp Tesira as instructed and encouraged by Shure, QSC and Biamp, performs an acoustic echo cancellation operation with an acoustic echo canceller on the plurality of combined signals to generate a plurality of combined echo canceled signals. <i>See, e.g.</i> : [MXA910 User Manual] • Pg. 7: |



Array microphone. See, e.g., [QSC Quick Start Guide ("Integrating Q-SYS with the SHURE MXA910 microphone")] ("6. Each of the MXA910 microphone's active lobes corresponds to an AES67 channel.")

Biamp Tesira products

The Biamp Tesira line has AEC built in. See, e.g., [Biamp Knowledge Base ("AEC in Tesira") –

https://support.biamp.com/Tesira/Programming/AEC_in_Tesira].

The Biamp Tesira line can provide AEC for each lobe of the Shure Microflex Array microphone. See, e.g., [Biamp Knowledge Base ("Using the Shure MXA910 with Tesira")] ("For best performance, each lobe from the MXA910 array will require a dedicated channel of AEC."); [Biamp Knowledge Base ("Using TesiraFORTEDAN with Shure MXA310 and MXA910")].

Shure, Biamp and QSC are liable for joint infringement because of a joint enterprise or alternatively direction or control. *See, e.g.*:

[12-12-16 – press release ("Biamp Systems and Shure Announce Tesira-Microflex Compatibility")]

• "We're excited to **come together** with an industry leader like Shure in an effort to streamline the **integration** of our products."

[Biamp Knowledge Base ("Using TesiraFORTEDAN with Shure MXA310 and MXA910")]

• "Partnership – The TesiraFORTE DAN product family ... offers streamline pairing with Shure MXA and MXW products"

[01-09-17 – press release ("QSC and Shure to Offer Integration Between Shure Microflex Networked Microphones and Entire Q-SYS Platform")]

- "Partnership provides native control and audio integration"
- "The **partnership** includes the release of new control plug-ins for the Shure MXA910 Ceiling Array Microphone"
- "The setup guide, also **co-developed** by QSC and Shure, provides step-by-step instructions on how to integrate the MXA910 with Q-SYS"
- "We are tremendously excited to expand our **partnership** with QSC"

| | | In addition, Shure, Biamp, and QSC are liable for indirect infringement because they actively encourage and instruct their customers to combine the Shure Microflex Array with Biamp or QSC acoustic echo cancellers to make a conferencing apparatus. See, e.g.: [10-12-16 – Shure Webinar (Invisible Audio)] • (@17:41: "We recommend and agree that the best way to use this mic is with individual channel processing inside your DSP; individual echo cancellation, individual noise reduction, individual EQ, everything, outside of the array itself; that's really the gold standard.") [MXA910 best practices – setup hints] • "Use an external DSP to apply AEC (Acoustic Echo Cancellation) and NC (Noise Cancellation) processing on each MXA910 output channel to help control echo and room noise." [01-09-17 – press release ("QSC and Shure to Offer Integration Between Shure Microflex Networked Microphones and Entire Q-SYS Platform")] • "Simple setup and configuration is assured with the addition of a detailed quick start guide to integrate and control between the |
|-----------|--|---|
| | | detailed quick start guide to integrate audio and control between the Shure and QSC systems The setup guide, also co-developed by QSC and Shure, provides step-by-step instructions on how to integrate the MXA910 with Q-SYS") See also [Biamp Knowledge Base ("Using the Shure MXA910 with Tesira")]; [Biamp Knowledge Base ("Using TesiraFORTEDAN with Shure MXA310 and MXA910")]; [QSC Quick Start Guide ("Integrating Q-SYS with the SHURE MXA910 microphone")]. |
| [1c(iii)] | select with a signal selection module, one or more of the combined echo cancelled signals for transmission to the far end, | The Shure Microflex Array, integrated with either the QSC Q-SYS or the Biamp Tesira as instructed and encouraged by Shure, QSC and Biamp, selects with a signal selection module one or more of combined echo cancelled signals for transmission to the far end, wherein said signal selection module uses the far end signal as information to inhibit said signal selection module from changing the selection of the combined echo cancelled signals while only the far end signal is active. <i>See, e.g.</i> : [Shure FAQ ("MXA910 best practices – setup hints")] ("6. Use an Automatic Mixer processor post EQ/AEC/NC, with the following recommended |

wherein said signal selection module uses the far end signal as information to inhibit said signal selection module from changing the selection of the combined echo cancelled signals while only the far end signal is active.

settings")

[Shure FAQ ("MXA910 and automixers")] ("Based on our experience, using gated-style automixers work best.");

Biamp Tesira products

[Biamp Knowledge Base ("Using the Shure MXA910 with Tesira") - https://support.biamp.com/Tesira/Miscellaneous/Using_the_Shure_MXA910 _microphone_array_with_Tesira]

• "The Gating Auto Mixers in Tesira were developed and configured for a variety of microphone types. Since the MXA910 utilizes microphone array technology, we've discovered the following settings should be adjusted for better performance: ... Mic Logic Type should be set to Last Hold."

[Biamp Knowledge Base ("Automixer basics") – https://support.biamp.com/General/Audio/Automixer_basics]

• "Mic Options ... Designated Mic ON / Last Mic Hold: Use this setting to decide which microphone channel will remain ON when no signal is present at any input."

[Biamp Knowledge Base ("Calibrating AEC in Tesira") — http://support.biamp.com/Tesira/Programming/Calibrating_AEC_in_Tesira]

• Adjust your gating automixer to allow the desired number of open mics (NOM). For many conferencing applications this can be left undefined (the mixer will open channels based on their signal level). In noisy environments it may be desirable to limit the number of open mics to better manage the noise to the far end. Enabling the direct outputs on the gating automixer and connecting them to an RMS meter will allow you to monitor which mics are active at any given time. The mix **output should be sent to the far end**.

[Biamp Knowledge Base ("Gain Sharing vs. Gating Automixer") – http://support.biamp.com/Tesira/Programming/Gain_Sharing_vs._Gating_Automixer]

QSC Q-SYS products

[QSC Q-SYS Designer ("Gating Automatic Mic Mixer Component") – http://q-syshelp.qschome.com/Content/Schematic%20Library/auto_mixer_gating_adapt ive.htm]

- "Gate Controls ... Last Mic On (button): Leaves the last microphone that was used in the open condition, until another microphone exceeds the Threshold."
- "Channel Controls ... Default: The Default button allows a channel's gate to be forced open when no signals exceed the threshold level."

[QSC Application Guide (Multiple core processors)] (pgs. 1, 6 referencing gating automatic mixing in the Q-SYS)

[QSC Q-SYS Training Courses: Instructional Textbook – https://s3.amazonaws.com/QSC_download/Q-Sys_Training_Master_Book_1%20sided%20v4%20042215.pdf] (pgs. 138-39)

[Q-SYS Acoustic Echo Cancellation (AEC) - http://q-syshelp.qschome.com/Content/Appendix/Q-SYS%20Acoustic%20Echo%20Cancellation%20White%20Paper.htm]

Shure, Biamp and QSC are liable for joint infringement because of a joint enterprise or alternatively direction or control. *See, e.g.*:

[12-12-16 – press release ("Biamp Systems and Shure Announce Tesira-Microflex Compatibility")]

• "We're excited to **come together** with an industry leader like Shure in an effort to streamline the **integration** of our products."

[Biamp Knowledge Base ("Using TesiraFORTEDAN with Shure MXA310 and MXA910")]

• "Partnership – The TesiraFORTE DAN product family ... offers streamline pairing with Shure MXA and MXW products"

[01-09-17 – press release ("QSC and Shure to Offer Integration Between Shure Microflex Networked Microphones and Entire Q-SYS Platform")]

• "Partnership provides native control and audio integration"

- "The **partnership** includes the release of new control plug-ins for the Shure MXA910 Ceiling Array Microphone"
- "The setup guide, also **co-developed** by QSC and Shure, provides step-by-step instructions on how to integrate the MXA910 with Q-SYS"
- "We are tremendously excited to expand our **partnership** with QSC"

In addition, Shure, Biamp, and QSC are liable for indirect infringement because they actively encourage and instruct their customers to combine the Shure Microflex Array with Biamp or QSC acoustic echo cancellers to make a conferencing apparatus. *See, e.g.*:

[10-12-16 – Shure Webinar (Invisible Audio)]

• (@17:41: "We recommend and agree that the best way to use this mic is with individual channel processing inside your DSP; individual echo cancellation, individual noise reduction, individual EQ, everything, outside of the array itself; that's really the gold standard.")

[MXA910 best practices – setup hints]

 "Use an external DSP to apply AEC (Acoustic Echo Cancellation) and NC (Noise Cancellation) processing on each MXA910 output channel to help control echo and room noise."

[01-09-17 – press release ("QSC and Shure to Offer Integration Between Shure Microflex Networked Microphones and Entire Q-SYS Platform")]

• "Simple setup and configuration is assured with the addition of a detailed quick start guide to integrate audio and control between the Shure and QSC systems. ... The setup guide, also co-developed by QSC and Shure, provides step-by-step instructions on how to integrate the MXA910 with Q-SYS")

See also [Biamp Knowledge Base ("Using the Shure MXA910 with Tesira")]; [Biamp Knowledge Base ("Using TesiraFORTEDAN with Shure MXA310 and MXA910")]; [QSC Quick Start Guide ("Integrating Q-SYS with the SHURE MXA910 microphone")].

The above infringement analysis of claim 1 is only exemplary. The Shure Microflex Array, integrated with either the QSC Q-SYS or the Biamp Tesira as instructed and encouraged by Shure, QSC and Biamp, similarly meets the other independent claims (claims 7, 13, 19), as

well as the dependent claims.